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(54) **A process for the conjugation of chelants with molecules containing amino groups**

(57) A process for the preparation of macromolecular chelants characterized by a high content in chelant groups per macromolecule.

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PARTIAL EUROPEAN SEARCH REPORT

Application Number

which under Rule 45 of the European Patent Convention EP 98 10 6720
shall be considered, for the purposes of subsequent
proceedings, as the European search report

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cls.)
Y	US 5 554 748 A (WATSON ALAN D ET AL) 10 September 1996 (1996-09-10) * abstract * * column 10, line 54 - column 11, line 9 * * examples 1-19 * * claims 1-5 *	1-12, 15	A61K49/00
Y	EP 0 315 220 A (GANSOW OTTO A) 10 May 1989 (1989-05-10) * abstract * * column 1, line 39 - column 3, line 14 * * column 4, line 48 - column 8, line 39 * --- -/--	1-12, 15	
			TECHNICAL FIELD SEARCHED (Int.Cls.)
			A61K
INCOMPLETE SEARCH			
<p>The Search Division considers that the present application, or one or more of its claims, does/to not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for those claims.</p> <p>Claims searched completely:</p> <p>Claims searched incompletely:</p> <p>Claims not searched:</p> <p>Reason for the limitation of the search:</p> <p>see sheet C</p>			
Place of search		Date of completion of the search	Examiner
MUNICH		8 September 2000	Taylor, G.M.
CATEGORY OF CITED DOCUMENTS			
<p>X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosures P: intermediate document</p> <p>T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons B: member of the same patent family, corresponding document</p>			

EPO FORM 1503 (01/02) (P.04007)



European Patent
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PARTIAL EUROPEAN SEARCH REPORT

Application Number
EP 98 10 6720

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cls)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
D,Y	<p>PAXTON R J ET AL: "HIGH-SPECIFIC-ACTIVITY 111IN-LABELED ANTICARCINOEMBRYONIC ANTIGEN MONOCLONAL ANTIBODY: IMPROVED METHOD FOR THE SYNTHESIS OF DIETHYLENETRIAMINEPENTAACETIC ACID CONJUGATES"</p> <p>CANCER RESEARCH,US,AMERICAN ASSOCIATION FOR CANCER RESEARCH, BALTIMORE, MD, vol. 45, no. 11, 1 November 1985 (1985-11-01), pages 5694-5699, XP000569506</p> <p>ISSN: 0008-5472</p> <p>* abstract *</p> <p>* Materials and Methods *</p> <p>----</p>	1-12,15	
D,Y	<p>R.G. BUCKLEY AND F. SEARLE: "An efficient method for labelling antibodies with 111-In"</p> <p>FEBS LETTERS, vol. 166, no. 1, 1984, pages 202-204, XP000918645</p> <p>* abstract *</p> <p>* Materials and Methods *</p> <p>----</p>	1-12,15	<p>TECHNICAL FIELDS SEARCHED (Int.Cls)</p>
P,A	<p>WO 97 32862 A (BRACCO SPA ;DIBRA SPA (IT); GOZZINI LUIGIA (IT); MAISANO FEDERICO) 12 September 1997 (1997-09-12)</p> <p>* abstract *</p> <p>* page 1, line 1 - line 27 *</p> <p>* claims 1-23 *</p> <p>-----</p>	1-12,15	

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OfficeINCOMPLETE SEARCH
SHEET CApplication Number
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Claim(s) searched completely:
10,11

Claim(s) searched incompletely:
1-9,12,15

Claim(s) not searched:
13,14

Reason for the limitation of the search:

Present claims 1-9 and 12-15 relate to an extremely large number of possible products. Support within the meaning of Article 84 EPC and/or disclosure within the meaning of Article 83 EPC is to be found, however, for only a very small proportion of the products claimed. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to the products as further defined in the subject-matter of claims 10 and 11, namely conjugates of a polyaminopolycarboxylic acid selected from those defined in claim 10, and polyamine macromolecules selected from those defined in claim 11.

Claims 13 and 14 relate to a product defined by reference to a desirable characteristic or property, namely conjugates with a high chelant residue/ amino groups ratio.

The claims cover all products having this characteristic or property, whereas the application provides support within the meaning of Article 84 EPC and/or disclosure within the meaning of Article 83 EPC for only a very limited number of such products. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible.

Independent of the above reasoning, the claims also lack clarity (Article 84 EPC). An attempt is made to define the products by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. In particular, the claims relate to the underlying technical problem as outlined in the description on p.1, lines 1-4, p.2, lines 5-7 and p.2, line 31 to p.3, line 4.

In view of this, and the restriction of the search of the other claims, claims 13 and 14 have not been searched.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

08-09-2000

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5554748 A	10-09-1996	AT 139790 T	15-07-1996
		AT 150047 T	15-03-1997
		AU 656304 B	02-02-1995
		AU 5423590 A	05-11-1990
		CA 2051648 A	08-10-1990
		DE 69027603 D	01-08-1996
		DE 69027603 T	05-12-1996
		DE 69030186 D	17-04-1997
		DE 69030186 T	19-06-1997
		WO 9012050 A	18-10-1990
		EP 0474642 A	18-03-1992
		EP 0481526 A	22-04-1992
		ES 2088428 T	16-08-1996
		ES 2098299 T	01-05-1997
		HK 1003577 A	30-10-1998
		HK 1003578 A	30-10-1998
		HU 60277 A	28-08-1992
		IE 74852 B	13-08-1997
		JP 4504436 T	06-08-1992
		NO 178866 B	11-03-1996
		US 5364613 A	15-11-1994
		US 5914095 A	22-06-1999
EP 0315220 A	10-05-1989	US 4824986 A	25-04-1989
		AU 4932490 A	07-06-1990
		AU 596590 B	10-05-1990
		AU 5780086 A	18-11-1986
		BR 8606644 A	04-08-1987
		CN 86103488 A	27-05-1987
		DK 627286 A	26-02-1987
		EP 0220279 A	06-05-1987
		EP 0355860 A	28-02-1990
		ES 554387 D	01-07-1987
		ES 8706965 A	16-09-1987
		JP 62502618 T	08-10-1987
		WO 8606384 A	06-11-1986
WO 9732862 A	12-09-1997	IT M1960458 A	08-09-1997
		AU 2094697 A	22-09-1997
		EP 0885202 A	23-12-1998
		JP 2000506152 T	23-05-2000

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/02